

U.S. Patent Application No. 10/810,386
Amendment Submitted with RCE
Reply to Final Office Action dated March 17, 2009

REMARKS/ARGUMENTS

This is a reply to the Final Office Action dated March 17, 2009.

Status of Claims

Claims 1-18 are currently pending in this application.

Claims 1-4 have been withdrawn.

Claims 5 and 6 are currently amended.

No claim is canceled.

Support for Amendments and New Claims

Claims 5 and 6 are amended based on support provided at page 4, lines 2-13, and elsewhere in the present application.

No new matter has been introduced by this amendment.

Information Disclosure Statement

An Information Disclosure Statement is being filed concurrently herewith, which cites co-pending application Ser. No. 11/053,138, and other documents, for the Examiner's consideration.

Response to Grounds of Rejection – 35 U.S.C. §103(a) Obviousness Rejection Based on Mater et al., Kelly et al., and Rearick et al.

Claims 5-18 have been rejected as being obvious under 35 U.S.C. §103(a) over Mater et al. (WO 2003023108 referenced as U.S. Pat. Appln. Publ. No. 2004/0198125 A1) in view of Kelly et al. (U.S. Pat. Appln. Publ. No. 2002/0004348 A1) and Rearick et al. (U.S. Pat. No. 6,491,727). The applicants respectfully traverse.

The Patent Office is understood in the most recent Office Action to assert that Mater can relate to fiber blend combinations of Category 1 (para-aramids, etc.), 2 (modacrylic, etc.), and 5 (rayons, etc.), and further asserts that the applicant's hydroentangling of the two layers would end up somewhat blended or mixed. The Patent Office acknowledges that Mater differs from the current application and does not teach a lyocell fiber or hydroentangling layers together. The

Patent Office asserts that Rearick presents a finding that one of ordinary skill in the art could have substituted lyocell for the cotton or a rayon fiber of Mater with a reasonable expectation of success. The Patent Office also asserts that Kelly teaches blending aramid fibers with melamine fibers and the use of a three dimensional image transfer device to overcome the disadvantages of aramid fibers while still producing a flame retardant fabric. The Patent Office also asserts that the burden is on the applicant to show that the results of the combination produce an unexpected result.

As explained in the present application, the present invention is based on the unexpected and surprising finding that lyocell fibers without a flame retardant coating form a char in the presence of modacrylic fiber in a fiber blend under burn conditions. This synergistic outcome and result of this particular fiber combination is nowhere taught, suggested or predicted in the prior art of record. Prior to the present invention, the conventional thinking and expectation in the industry was that lyocell fibers without flame retardant coating would melt when burned, which is a highly undesirable outcome such as where the fiber is used in bedding articles, apparel, etc. It further is an unexpected and surprising finding of the present invention that yellowing discoloration tendencies of a structurally stabilizing para-amid fiber used in one nonwoven layer with lyocell and modacrylic fibers can be masked by the combined use of that layer with another layer containing lyocell and modacrylic fibers. Evidence in the present application shows a nonwoven fabric Sample A that is representative and test results for the fabric, which included a flame test that the sample fabric tolerated and passed (see pages 8-9, Table 1). The sample fabric that was tested was prepared using a commercial source of lyocell fibers that do not have a flame retardant coating, viz., Tencel® lyocell fibers. The applicants are submitting a Material Safety Data Sheet (MSDS) obtained for Tencel® lyocell fibers in a concurrently filed Information Disclosure Statement. The Tencel® MSDS indicates that the fiber may contain approximately 1% titanium and up to 1% finish. Titanium dioxide is a conventional filler or pigment material, and not a flame retardant in the lyocell fiber. The “finish” is understood to refer to processing aids, such as lubricants, etc., but not flame retardant coatings. The same fiber manufacturer separately markets flame retardant fibers as such (e.g., Lenzing FR®). Thus, a lyocell fiber per se, such as directly obtained from a commercial supplier, is not flame retardant coated.

Mater nowhere teaches using lyocell, as admitted by the Patent Office. Rearick teaches use of flame-retardant coated lyocell, and not the substitution of lyocell fiber for rayon fibers that have no flame retardant coating, such as a category 5 fiber of Mater. Therefore, the above-stated unexpected effects of the combinations of lyocell fiber without a flame retardant coating and modacrylic fiber in the nonwoven fabrics of the present invention could not have been predicted or expected from the art relied upon in the rejection.

Further, Mater strongly teaches away from the present invention by requiring “high loft” products where the fibers are blended and processed without hydroentangling, or if used, “only in a minor context” (which would be inconsistent with a consolidation of multiple layers), so as to produce a fiber blend having a greater volume of air than fiber (see, e.g., ¶¶[0101], [0104], [0105]).¹ The present claims require a nonwoven fabric with layers in a hydroentangled united arrangement, which is contrary to the “high loft” fabrics of Mater which only would have hydroentanglement in “a minor context” if at all. As stated above, Mater teaches away from the use of mechanical bonding techniques such as hydro-entanglement to consolidate the fiber blend as they undermine the “high loft” requirements of Mater’s product. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)” (M.P.E.P. §2143.01 V.). In view of the above reasons, a person having ordinary skill in the art would have been clearly discouraged by Mater from considering the inclusion of hydroentanglement consolidation according to Kelly in the fabric blend of Mater. Therefore, this evidence shows that it would not have been *prima facie* obvious to combine Mater and Kelly in the manner suggested in the rejection.

The applicants also have set forth other arguments in response to the rejection in their previous response of December 11, 2008, which are specifically incorporated herein by reference to avoid repetitions in the record.

In view of the above, the relied upon Mater et al., Kelly et al. and Rearick et al. references for this rejection, either individually or in the proposed combination, fail to teach or suggest every claimed recitation of either present independent claim 5 or 6. Present claims 7-18 are patentable over the Mater et al., Kelly et al. and Rearick et al. references for at least the same

¹ The prosecution history of the U.S. application upon which the Mater reference is based confirms the accuracy of this interpretation of the teachings of the reference.

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reasons as their respective parent claim.

Therefore, the present claims are not rendered *prima facie* obvious over these references.

In view of the above, reconsideration and withdrawal of this rejection is requested.

It is believed that this application is in condition for allowance, and notice of such is respectfully requested.

If the Examiner believes that a teleconference would be useful in expediting the prosecution of this application, then kindly contact the applicants' undersigned representative of record.

Respectfully submitted,

/Ramon R. Hoch/

Ramon R. Hoch, Reg. #34108

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Direct Correspondence To:

Customer Number 62753

Valerie Calloway, Esq.
Polymer Group, Inc.
9335 Harris Corners Parkway, Suite 300
Charlotte, North Carolina 28269
(704) 697-5177